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GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
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FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
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17 February 2005

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: COMPLEMENT INHIBITORS FROM TICKS

(57) Abstract: The invention relates to complement inhibitors that inhibit both the classical and alternative complement pathways. In particular, the invention relates to complement inhibitors derived from the salivary glands of haematophagous arthropods that inhibit both the classical and alternative complement pathways. The invention also relates to the use of such complement inhibitors in the treatment and prevention of diseases.

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INTERNATIONAL SEARCH REPORT

national Application No
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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/435 C12N15/11 C12N15/62 A61K38/17
G01N33/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, Sequence Search, EMBASE, BIOSIS, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MCKENZIE R ET AL: "Regulation of complement activity by vaccinia virus complement-control protein." THE JOURNAL OF INFECTIOUS DISEASES. DEC 1992, vol. 166, no. 6, December 1992 (1992-12), pages 1245-1250, XP008038345 ISSN: 0022-1899 abstract ----- -/-	1,17-21, 24-31, 33,36

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

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- * & * document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ASGHAR S S ET AL: "Inhibition of complement by a series of substituted 2-aryl-1,3-indandiones: interaction with the fifth component of complement." MOLECULAR IMMUNOLOGY. MAY 1986, vol. 23, no. 5, May 1986 (1986-05), pages 459-465, XP002305197 ISSN: 0161-5890 abstract	1-7
X	WHITE K L JR ET AL: "Suppression of mouse complement activity by contaminants of technical grade pentachlorophenol." AGENTS AND ACTIONS. JUL 1985, vol. 16, no. 5, July 1985 (1985-07), pages 385-392, XP008038344 ISSN: 0065-4299 abstract	1-7
X	FEUILLARD J ET AL: "Comparative study of in vitro inhibition of activation of the classical and alternative pathways of human complement by the magnesium and sodium salts of the anti-inflammatory peptide N-acetyl-aspartyl-glutamic acid (NAAGA)." AGENTS AND ACTIONS. MAR 1991, vol. 32, no. 3-4, March 1991 (1991-03), pages 343-346, XP000803834 ISSN: 0065-4299 abstract	1
A	BARANDA J A ET AL: "Purification, N-terminal sequencing and diagnostic value of the major antigens of Ornithodoros erraticus and O. moubata." VETERINARY PARASITOLOGY. JAN 2000, vol. 87, no. 2-3, January 2000 (2000-01), pages 193-206, XP002305200 ISSN: 0304-4017 cited in the application abstract page 202, paragraph 3 page 205, paragraph 2 - paragraph 3	1-31

-/-

INTERNATIONAL SEARCH REPORT

national Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	ASTIGARRAGA A ET AL: "Host immune response evasion strategies in <i>Ornithodoros erraticus</i> and <i>O. moubata</i> and their relationship to the development of an antiargasid vaccine." PARASITE IMMUNOLOGY. SEP 1997, vol. 19, no. 9, September 1997 (1997-09), pages 401-410, XP008038693 ISSN: 0141-9838 cited in the application abstract; figure 5	1-31
A	KELLER P M ET AL: "Cloning of the cDNA and expression of moubatin; an inhibitor of platelet aggregation." THE JOURNAL OF BIOLOGICAL CHEMISTRY. 15 MAR 1993, vol. 268, no. 8, 15 March 1993 (1993-03-15), pages 5450-5456, XP002305201 ISSN: 0021-9258 abstract; figure 1	1-31
A	WO 93/17099 A (MERCK & CO INC) 2 September 1993 (1993-09-02) abstract; claims 1-9; sequences 1,2	1-31, 33, 36
A	MANS BEN J ET AL: "Pathogenic mechanisms of sand tampan toxicoses induced by the tick, <i>Ornithodoros savignyi</i> ." TOXICON : OFFICIAL JOURNAL OF THE INTERNATIONAL SOCIETY ON TOXINOLOGY. JUL 2002, vol. 40, no. 7, July 2002 (2002-07), pages 1007-1016, XP002305202 ISSN: 0041-0101 cited in the application abstract	1-31
A	MANS B J ET AL: "Identification of putative proteins involved in granule biogenesis of tick salivary glands." ELECTROPHORESIS. MAY 2001, vol. 22, no. 9, May 2001 (2001-05), pages 1739-1746, XP002305203 ISSN: 0173-0835 cited in the application abstract; figure 10	1-31

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international application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claims 32,34,35,37,38,40 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition. Although claim 39 is directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

INTERNATIONAL SEARCH REPORT

national Application No

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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 9317099	A	02-09-1993	AU	3734093 A		13-09-1993
			WO	9317099 A1		02-09-1993
			US	5340726 A		23-08-1994
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